

1 **WE CLAIM:**

1 1. A head gimbal assembly for a disk drive, the head gimbal assembly comprising:
2 a trace suspension assembly backing layer including a gimbal, the trace suspension
3 assembly backing layer being formed of a conductive material having a first oxidation rate;
4 a gimbal conductive layer disposed upon the gimbal and formed of a conductive
5 material having a second oxidation rate lower than the first oxidation rate;
6 a slider supported by the gimbal; and
7 a conductive compound disposed between the gimbal conductive layer and the
8 slider for electrically grounding the slider to the trace suspension assembly backing layer.

1 2. The head gimbal assembly of Claim 1 wherein the trace suspension assembly backing layer
2 is formed of stainless steel.

1 3. The head gimbal assembly of Claim 1 wherein the gimbal conductive layer is formed of
2 gold.

1 4. The head gimbal assembly of Claim 1 wherein the gimbal conductive layer is formed of
2 platinum.

1 5. The head gimbal assembly of Claim 1 wherein the slider defines a slider perimeter, the
2 gimbal conductive layer defines a gimbal conductive layer perimeter less than an area of the slider
3 perimeter.

1 6. The head gimbal assembly of Claim 1 wherein the gimbal defines a gimbal perimeter, the
2 gimbal conductive layer defines a gimbal conductive layer perimeter less than an area of the
3 gimbal perimeter.

1 7. The head gimbal assembly of Claim 1 wherein the conductive compound is a conductive
2 epoxy.

1 8. The head gimbal assembly of Claim 1 further includes an adhesive compound disposed
2 between the trace suspension assembly and the slider for attaching the slider to the trace
3 suspension assembly backing layer.

1 9. The head gimbal assembly of Claim 8 wherein the adhesive compound is disposed between
2 the gimbal conductive layer and the slider.

1 10. The head gimbal assembly of Claim 8 wherein the adhesive compound is a structural
2 epoxy.

1 11. A head stack assembly for use with a disk drive, the head stack assembly comprising:
2 a flex cable assembly;
3 an actuator including an actuator arm;
4 a load beam coupled to the actuator arm, the load beam being formed of an electrically
5 conductive material;
6 a trace suspension assembly backing layer being coupled to the load beam and
7 including a gimbal, the trace suspension assembly backing layer being formed of a
8 conductive material having a first oxidation rate;
9 a gimbal conductive layer disposed upon the gimbal and formed of a conductive
10 material having a second oxidation rate lower than the first oxidation rate;
11 a slider supported by the gimbal; and
12 a conductive compound disposed between the gimbal conductive layer and the
13 slider for electrically grounding the slider to the trace suspension assembly backing layer.

1 12. The head stack assembly of Claim 11 wherein the trace suspension assembly backing layer
2 is formed of stainless steel.

1 13. The head stack assembly of Claim 11 wherein the gimbal conductive layer is formed of
2 gold.

1 14. The head stack assembly of Claim 11 wherein the gimbal conductive layer is formed of
2 platinum.

1 15. The head stack assembly of Claim 11 wherein the slider defines a slider perimeter, the
2 gimbal conductive layer defines a gimbal conductive layer perimeter less than an area of the slider
3 perimeter.

1 16. The head stack assembly of Claim 11 wherein the gimbal defines a gimbal perimeter, the
2 gimbal conductive layer defines a gimbal conductive layer perimeter less than an area of the
3 gimbal perimeter.

1 17. The head gimbal assembly of Claim 11 wherein the conductive compound is a conductive
2 epoxy.

1 18. The head gimbal assembly of Claim 17 further includes an adhesive compound disposed
2 between the trace suspension assembly and the slider for attaching the slider to the trace
3 suspension assembly backing layer.

1 19. The head gimbal assembly of Claim 18 wherein the adhesive compound is disposed
2 between the gimbal conductive layer and the slider.

1 20. The head gimbal assembly of Claim 18 wherein the adhesive compound is a structural
2 epoxy.

1 21. A disk drive comprising:

2 a disk drive base; and

3 a head stack assembly rotatably coupled to the disk drive base, the head stack assembly

4 including:

5 a flex cable assembly;

6 an actuator including an actuator arm;

7 a load beam coupled to the actuator arm, the load beam being formed of an

8 electrically conductive material;

9 a trace suspension assembly backing layer being coupled to the load beam and

10 including a gimbal, the trace suspension assembly backing layer being formed of a

11 conductive material having a first oxidation rate;

12 a gimbal conductive layer disposed upon the gimbal and formed of a

13 conductive material having a second oxidation rate lower than the first oxidation

14 rate;

15 a slider supported by the gimbal; and

16 a conductive compound disposed between the gimbal conductive layer and

17 the slider for electrically grounding the slider to the trace suspension assembly

18 backing layer.

- 1 22. A method of manufacturing a head gimbal assembly for a disk drive, the method
2 comprising:
3 a) providing a trace suspension assembly backing layer including a gimbal, the trace
4 suspension assembly backing layer being formed of a conductive material having a
5 first oxidation rate;
6 b) forming a gimbal conductive layer upon the gimbal, the gimbal conductive layer
7 being formed of a conductive material having a second oxidation rate lower than
8 the first oxidation rate; and
9 c) attaching a slider to the gimbal with a conductive compound disposed between the
10 slider and the gimbal conductive layer for grounding the slider to the trace
11 suspension assembly backing layer.
- 1 23. The method of Claim 22 wherein the gimbal includes an oxidation layer, step (a) further
2 includes removing the oxidation layer.
- 1 24. The method of Claim 22 wherein step (b) includes forming the gimbal conductive layer upon
2 the gimbal via a plating process.
- 1 25. The method of Claim 22 wherein the conductive compound is a conductive epoxy.
- 1 26. The method of Claim 22 wherein step (c) includes attaching the slider to the gimbal with
2 an adhesive compound disposed between the slider and the trace suspension assembly backing
3 layer for attaching the slider to the trace suspension backing layer.